DOCUMENT RESUME

ED 391 697 SE 057 867

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TITLE	The Exploratorium Guide to Scale and Structure: Activities for the Elementary Classroom.
INSTITUTION	Exploratorium, San Francisco, CA.
SPONS AGENCY	National Science Foundation, Arlington, VA.
REPORT NO	ISBN-0-435-08372-4
PUB DATE	95
CONTRACT	ESI-9153837
NOTE	198p.
AVAILABLE FROM	Heinemann, 361 Hanover Street, Portsmouth, NH 03801-3912.
PUB TYPE	Guides - Classroom Use - Teaching Guides (For Teacher) (052)
EDRS PRICE	Document Not Available from EDRS.
DESCRIPTORS	Elementary Secondary Education; Inquiry; Interdisciplinary Approach; Investigations; Mathematics; *Measurement; Physics; Science Activities; Science Experiments; *Structural Elements (Construction)
IDENTIFIERS	Scale Analysis

ABSTRACT

The theme of Scale and Structure (or simply Scale) appears in many state science frameworks and projects of national importance. The major idea of this theme is that a change in scale will affect the nature of the given structure. This book is designed as a guide and set of activities for third- through eighth-grade teachers. The activities included are designed to help students develop a feeling for and an understanding of structure and how it changes with scale change. This book should be considered as a collection of starting points that provide endless opportunities for sustained investigations and experimentation. The activities explore a set of phenomena using different materials and approaches, thus allowing students to develop a better understanding of the phenomena over time. The book is divided into four sections: teaching scale and structure, the physics and engineering of structure, the mathematics of scale, and the effect of scale on structure. Appendices include a resource guide, blank charts for mathematics of scale activities, and sample science record sheets. (JRH)

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